

Sine - Wave Pulse Generator SPG 1.2-25000

Impulse Current Generator for 50 Hz semi-sinus waves

Wave shape:

Semi-sinus wave

T/2 = 10 ms

2 Current ranges:

- 0.5 - 7.5 kA
- 25 - 375 A

**Compact
Design**

**Safety-
EUT Cabinet**

Acc. to EN 50470-3

The Sine Wave Pulse Generator is used for impulse current tests of the current conductors of watt-hour meters. The generator produces sinusoidal impulse currents and the wave shape is a 50 Hz sinusoidal half wave and the amplitude is adjustable via the charging voltage of the energy storage capacitor from 0.5 kA to 7.5 kA.

For testing low power watt-hour meters a second output is available, which allows the generation of impulse amplitudes of 25 A up to 375 A.



The pulse shaping network comprises an impulse current measuring resistor for the surveillance of the impulse amplitude. The impulse current output is placed on the top of the generator and it is designed as a high current test adaptor.

The output clamping connectors, as well as the EUT are placed in the upper part of the cabinet behind a transparent front door, which prevents accidental touching of the connectors, while the tests are in progress.

When the front door is opened the internal high voltage generator is switched off and the energy storage capacitor is discharged.

The operator can define test sequences via the microprocessor controlled operation and display unit, these can be stored on the onboard software and test sequences can be carried out. The following test parameters can be adjusted via a digital turn button and shown in the display: Charging voltage, polarity, number of impulses and impulse repetition rate.

Technical Data :

SPG 1.2-25000

Basic unit:

Microprocessor control, display with LCD-module	8*40 characters
Remote control via optically isolate computer interface	fibre optic link, length 5 m
Parallel printer interface for online test report generation	D-25 with 25 poles
External trigger input	10 V an 1 kΩ
External trigger output	10 V an 1 kΩ
Diagnostic input for the surveillance of the EUT	4 channels, 5 V logic
Connectors for external safety circuit	24 V =
as well as external red and green warning lamps to VDE 0104	230 V, 60W
Mains power supply	230 V / 50 Hz
Dimensions : 19" cabinet, B * H * D	approx. 556*1970*800 mm ³
Weight:	approx. 500 kg

High Current Impulse Generator:

Charging voltage adjustable	40 - 1200 V ± 2 %
Display resolution	8 bit ± 1 LSB
Polarity of the impulse current	positive
Maximum stored energy	25 000 Ws
Charging time for max. charging voltage	approx. 90s
Maximum impulse repetition rate	1/120 sec
Wave shape representing a sinusoidal half wave, see calculation	
max. limit load integral of the current $\int i^2 dt$ max	281 000 A ² s
Max. amplitudes of the impulse currents	
PFN 1	7500 A + 10%, -5%
PFN 2	approx.. 500 A
Impulse current measuring resistor built-in	1.0 mΩ, 800kHz
Impulse release : a) manual	by key operation
b) external trigger input	10 V / 1 kΩ
c) internal, automatic	depending on test progr.

Remote control via serial interface	built-in
Accessories : Mains cable, Key, Operating instructions	

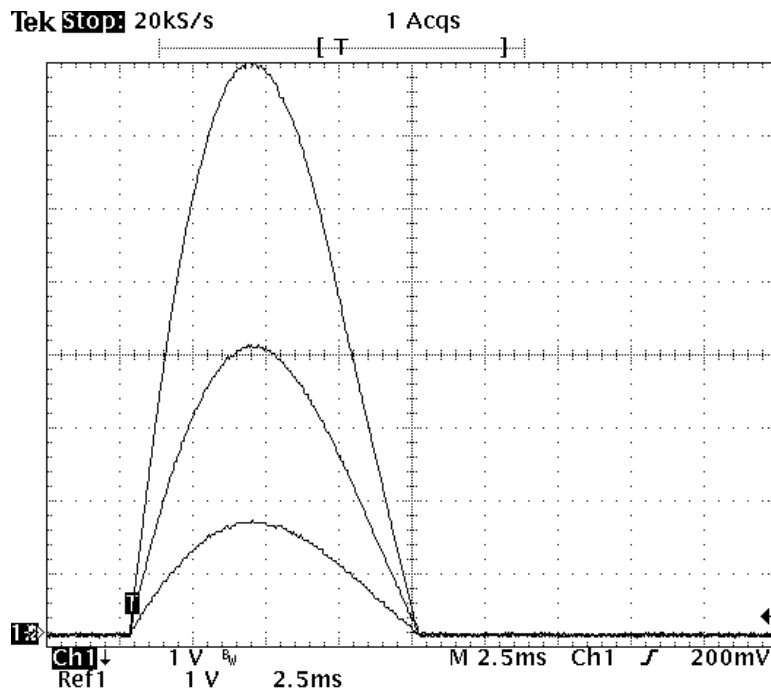
Safety test room in the upper part of the 19" cabinet, 12 HE, with glass front door, Main switch connected to the safety circuit of the generator.
Red and green warning lamps on top of the cabinet

EUT fitting connectors	built-in
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Auxiliary power supply for the watt-hour meters to be tested:

1-phase adjustable resp. switchable voltage:	230 / 110 / 100 V
max. output power	30 VA
Display of the auxiliary power supply voltage (in the testing space)	built-in

Wave shape of the output current



PFN 8.0kA

1000A / DIV

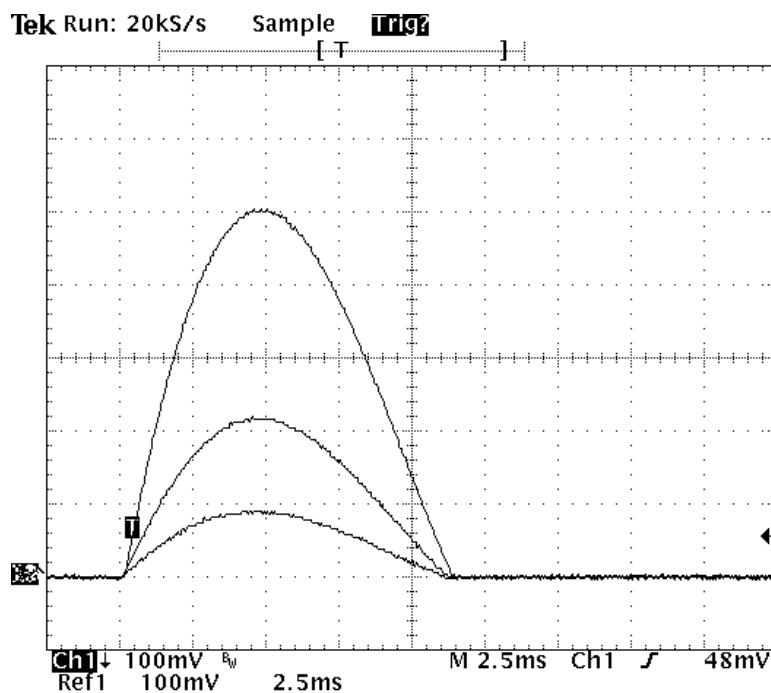
charging voltage:
1000 V

500 V

200 V

2.5 ms/DIV

28 Jul 2008
16:07:42



PFN 400A

100A / DIV

charging voltage:

1200 V

500 V

200 V

2.5 ms/DIV

28 Jul 2008
15:59:39